



The 6th ISTAP International Seminar on Tropical Animal Production

“Integrated Approach in Developing Sustainable Tropical Animal Production”

PROCEEDINGS

October 20-22, 2015
Yogyakarta Indonesia

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Morphological Characteristics and Performance Boerawa Goat in Tanggamus District Lampung Province

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ABSTRACT: Lampung Province is an area that has the potency for the development of farm businesses. One of suitable animals to be developed in Lampung Province is goat. The success of business development of farm animal cannot be separated from the influence of genetic and environmental factors. One effort that can be taken to improve the genetic quality of the goat is through crossbreeding. Crossbreeding is one of good way to improve animal production. Crossbreeding between female Ettawah grade goats and male boer goats are known with the name Boerawa goat. Currently Boerawa goat are developed in Tanggamus District Lampung Province. The results of crossbreeding are expected to have higher performance than Ettawah grade goat. High performance of growth is the result of genetic inheritance of Boer goats that have superior growth characteristics. This research was conducted using survey method in Gisting, Tanggamus District Lampung Province. Qualitative data on the morphological characteristics and performance in a descriptive analysis from observations indicate that the morphological characteristics of goats crossing at the post weaning period is better. It can be seen from some morphological parameters that were observed, among others; body length, shoulder height, chest circumference, and of aspects of performance; litter size, birth weight, and ADG also showed significant improvement in this Boerawa goat

Keywords: Morphological Characteristics, Performance, Boerawa Goat, Lampung

INTRODUCTION

The development of farm animal in this millennium century is rapidly increasing, a long with the increasing human need for animal protein, especially meat from goat. Lampung Province is an area that is potential for development of farm business. The data from the council of Animal Husbandry and Health in Lampung Province (2011) Lampung Province has potential area to get capacity of 1.38 million Animal Unit (AU) and now the animal population in this area are only 506.352 AU. It means only 36.69% of the potential ability can be used. The Goat population is 1.081.150 or 151.422 AU.

Crossbreeding is one of good way to improve the local animal productivity crossed with other animals that has good genetic. Boerawa Goat is the crossbreeding between female Ettawa grade goat and male Boer goat. Boerawa goat has the difference morphological size with the parents. Mahmilia and Tarigan (2004) reports that the result of crossbreeding between female Ettawa grade goat and male Boer goat has the better morphological sizes than Kacang Goat. Morphological Characteristic (body sizes) includes the production and productivity value of Goat. The Body size can describe about the exterior performance, body weight and the basic in selection of animal breeding program (Diwyanto, 1994). Since the information about morphological and production of goat especially during 0-3 month (pre-weaning) is less, this research is very important to provide information about it.

MATERIAL AND METHODS

Material

This research was located in Campang Village, Gisting District, Tanggamus Regency at 2011-2013. The Object of Research is Boerawa Goat in there. The Equipment used in this research is balance of prohex capacity of 50.00 kg with accuracy 0.1 kg, Thermohygrometer, and writing tool.

Methods

The Methods used in this research is survey with case study in campang village, gisting District, Tanggamus Regency, Lampung Province. The Data's are primary data and the secondary data. The Primary data collected in the field observation research were livestock management (the cage system, feed and feeding frequency) and weight of weaning goat sample, and also interview with the farmers. The secondary data collected from the farmers recording included the name of farmers, date and birth weight of sample goat.

Variables observed by Hardjosubroto (1994) is as follows:

1. The birth weight (kg) were collected by observing the farmers recording
2. The weaning weight (kg) were collected by weighing the doe after weaning from their mother.
3. The yearling weight (kg) collected by weighing the one year old goat.
4. Average Daily Gain of doe after birth until 1 year post weaning (kg/day) collected by decreasing the yearling weight with birth weight and dividing with the number of day per year
5. Boerawa Goat Characteristic (Chest Circumference, body length and shoulder height)
6. Livestock management collected by interviewing the farmers and observing in the field study.

RESULTS AND DISCUSSION

Morphological Characteristic

Morphological characteristic of one year old Boerawa goat was shown in the table 2. The animal body sizes influenced age, feeding, genetic, environment and sex (Gall, 1981). The table shows the different in body size average (morphological) every goat.

Table 1. Morphological Characteristic Boerawa goat (yearling)

	Chest circumference (cm)	body length (cm)	shoulder height (cm)	Body weight (kg)
Average	75.07	65.02	68,47	38,00
Highest	86.00	71.00	77.00	48.70
Lowest	71.00	61.00	62.80	31.50
standart deviation	3.78	2.47	3.92	3.78

This research shows that morphological characteristic of Boerawa Goat is higher than the result of Sulastri's (2014) in which the chest circumference is 63.78 ± 1.12 cm, body length is 58.01 ± 1.01 cm and shoulder height is 53.68 ± 1.98 cm. This condition gives description that the

livestock management of Boerawa goat is better. This condition illustrates that rearing management of Boerawa goat in Tanggamus have improved and give a better appearance .

Tabel 2. The Performance Boerawa Goat

	Birth Weight (kg)	Weaning Weight (kg)	Yearling Body weight (kg)	ADG (g/day)
Average	3.41	21.18	38.00	0.099
Highest	4.00	24.00	48.70	0.128
Lowest	2.80	18.00	31.50	0.082
standart deviation	0.35	2.15	3.78	0.010

Some research indicated the results of the birth weight of Boerawa goat of 2.87 ± 0.15 kg/goat (Sulastri dan Qisthon 2007); 3.02 ± 0.29 kg/goat (Adhianto *et al.*, 2012). Based on sex, the average birth weight of males was higher (3.10 kg/goat) than female (2.94 kg/goat) (Adhianto *et al.*, 2013). The average of weaning weight is 17.30 kg/goat (Adhianto *et al.*, 2013); 21.01 ± 1.35 kg/goat (Sulastri dan Qisthon, 2007). In the yearling the weight is 38.38 ± 0.94 kg/goat (Sulastri dan Qisthon 2007) and 43.67 ± 5.51 kg/goat (Adhianto, 2013). The high differences of birth, weaning and yearling weight may be caused by genetic factors where Boerawa goat is a result of female Etawah grade and male Boer crossbreeding, and influenced by environment factors, especially management and feed.

Another research showed that ADG was 0.22 ± 0.08 kg/goat (Harris *et al* 2009); 0.110 kg/goat (Adhianto, 2013) which was higher than this research (0.099 kg/goat).

These conditions indicate that good management system need to be supported by genetic resources too. Therefore, breeding programs boerawa goat is very important to developed so as to produce better Boerawa goat.

CONCLUSIONS

The result of the research showed that characteristic of Boerawa goat including the body size is better than the research that was conducted previously, but it must be supported with the genetic source for better performance of Boerawa goat.

REFERENCES

- Adhianto, K., N Ngadiyono, Kustantinah, dan I G S Budisatria. 2012. *Lama Kebuntingan, Litter Size, dan Bobot Lahir Kambing Boerawa pada Pemeliharaan Perdesaan di Kecamatan Gisting Kabupaten Tanggamus*. Jurnal Penelitian Pertanian Terapan Vol. 12 (2): 131-136
- Adhianto, K. 2013. *Produktivitas Kambing Boerawa Pada Pemeliharaan Pedesaan Dengan Pemanfaatan Konsentrat Berbasis Limbah Agroindustri Di Provinsi Lampung*. Disertasi. Fakultas Peternakan Universitas Gadjah Mada
- Adhianto. K., N Ngadiyono, IGS Budisatria, dan Kustantinah. 2013. Doe Productivity of Boerawa Goat on Rural Condition. *Animal Production* 15(1):31-39, January 2013
- Dinas Peternakan dan Kesehatan Hewan Provinsi Lampung. 2011. *Peternakan Lampung Produk Unggulan Peluang Investasi*. Dinas Peternakan dan Kesehatan Hewan Provinsi Lampung. Lampung
- Diwyanto, K. 1994. *Pengamatan Ukuran Permukaan tubuh Domba dan kambing di Indonesia*. Puslitbang Peternakan, Bogor. 146 hlm.

- Gall, C. 1981. Goat Production. Academic Press London. pp. 51 – 89; 542 – 544.
- Hardjosubroto, W. 1994. *Aplikasi Pemuliabiakan Ternak di Lapangan*. PT Grasindo. Jakarta
- Harris, I., A. Dakhlan dan S. Suharyati., 2009. Performance of Kid Grade-1 as a Result of Grading-up Between Local Goat and Boer Goat. The First International Seminar on Animal Industry, Faculty of Animal Husbandry, Bogor Agricultural University, November 23-24, 2009.
- Mahmilia, F Dan A. Tarigan. 2004. Karakteristik Morfologi dan Performans Kambing kacang, kambing Boer dan Persilangannya. Pros. Lokakarya Nasional Kambing Potong. Bogor, 2004. Puslitbang Peternakan. hlm. 209 – 212.
- Sulastri. 2014. *Karakteristik genetik bangsa-bangsa kambing di Provinsi Lampung. Disertasi. Program Pascasarjana*. Fakultas Peternakan. Universitas Gadjah Mada. Yogyakarta.
- Sulastri dan A. Qisthon. 2007. *Nilai Pemuliaan sifat-sifat pertumbuhan kambing Saburai grade 1-4 pada tahapan Grading Up kambing Peranakan Etawah betina oleh jantan Boer*. Laporan Penelitian Hibah Bersaing. Universitas Lampung. Bandar Lampung.